Amendments to the claims:

This listing of the claims will replace all prior versions and listings of the claims in the application:

Listing of Claims

1. (Currently amended) A method of forming a capacitor on an integrated circuit comprising:

forming a ~~cylindrical~~ lower electrode ~~of the capacitor~~ on an integrated circuit substrate;

forming a nitride protection layer on the ~~cylindrical~~ lower electrode at a first temperature ~~below a minimum temperature associated with~~ without a phase change of the ~~cylindrical~~ lower electrode and without an increase of a resistance of the lower electrode;

forming a dielectric layer on the nitride protection layer at a second temperature ~~of about 600°C or less~~ substantially the same as the first temperature, wherein the nitride protection layer is configured to ~~limit~~ prevent an oxidation of the ~~cylindrical~~ lower electrode ~~during forming~~ in a formation of the dielectric layer ~~and wherein the nitride protection layer and the cylindrical lower electrode are not exposed to a temperature of above 600°C before formation of the dielectric layer~~; and

forming an upper electrode ~~of the capacitor~~ on the dielectric layer.

2. (Currently amended) The method of Claim 1, wherein the ~~cylindrical~~ lower electrode comprises an amorphous silicon layer, a polycrystalline silicon layer and/or a composite layer thereof.

3. (Currently amended) The method of Claim 1, wherein the nitride protection layer comprises a silicon nitride layer.

4. (Currently amended) The method of Claim 3, wherein forming the nitride protection layer ~~comprises forming the silicon nitride layer~~ is performed at [[a]] the first

temperature [[of]] below about 600°C ~~or less~~ using a plasma nitration process.

5. (Currently amended) The method of Claim 3, wherein forming the nitride protection layer ~~comprises forming the silicon nitride layer directly on the cylindrical lower electrode~~ is performed at [[a]] the first temperature [[of]] below about 600°C ~~or less~~ using a chemical vapor deposition process ~~and/or~~ or an atomic layer deposition process.

6. (Currently amended) The method of Claim 3, wherein forming the nitride protection layer ~~comprises forming the silicon nitride layer directly on the cylindrical lower electrode~~ is performed at [[a]] the first temperature [[of]] below about 600°C ~~or less~~ using a microwave-type deposition process.

7. (Currently amended) The method of Claim 1, wherein the dielectric layer comprises a metal oxide layer.

8. (Currently amended) The method of Claim 7, wherein the metal oxide layer comprises a TiO_2 layer, an Al_2O_3 layer, an Y_2O_3 layer, a ZrO_2 layer, an HfO_2 layer, a $BaTiO_3$ layer, an $SrTiO_3$ layer and/or a composite layer thereof.

9. (Currently amended) The method of Claim 7, wherein forming the dielectric layer ~~comprises forming the metal oxide layer~~ is performed at [[a]] the second temperature [[of]] below about 600°C ~~or less~~ using a chemical vapor deposition process ~~and/or~~ or an atomic layer deposition process.

10. (Canceled).

11. (Currently amended) The method of Claim 1, wherein the upper electrode comprises an amorphous silicon layer, a polycrystalline silicon layer, an Ru layer, a Pt layer, an Ir layer, a TiN layer, a TaN layer, a WN layer and/or a composite layer thereof.

12. (Currently amended) The method of Claim 1, wherein forming the ~~cylindrical~~ lower electrode comprises:

forming a lower structure on the integrated circuit substrate;

forming an insulation layer pattern having a contact hole on the lower structure;

forming a conductive plug in the contact hole;

forming an oxide layer patterned to have a cylindrical shape on the insulation layer pattern and the conductive plug;

forming a conductive layer for the ~~cylindrical~~ lower electrode on the oxide layer; and

removing the oxide layer to form the ~~cylindrical~~ lower electrode having a cylindrical shape.

13. (Currently amended) The method of Claim 12, wherein ~~forming~~ the nitride protection layer ~~comprises forming the nitride protection layer~~ is directly formed on the conductive layer.

14. (Currently amended) A method of forming a capacitor comprising:

forming a first conductive layer on a substrate;

forming a reaction-preventing nitride layer on the first conductive layer at a first temperature without ~~not generating~~ a phase change of the first conductive layer and without an increase of a resistance of the first conductive layer ~~to prevent oxidation of the first conductive layer~~;

forming a dielectric layer on the reaction-preventing nitride layer at **[[**the**]]** a second temperature ~~not generating the phase change of the first conductive layer~~ substantially the same as the first temperature, wherein the reaction-preventing nitride layer prevents an oxidation of the first conductive layer in a formation of the dielectric layer ~~and the first conductive layer are not exposed to a temperature generating the phase change of the first conductive layer before formation of the dielectric layer~~; and

forming a second conductive layer on the dielectric layer.

15. (Currently amended) The method of Claim 14, wherein the first conductive layer [[is]] comprises an amorphous silicon layer, a polycrystalline silicon layer and/or a composite layer thereof.

16. (Currently amended) The method of Claim 14, wherein the reaction-preventing nitride layer [[is]] comprises a silicon nitride layer.

17. (Currently amended) The method of Claim 16, wherein the ~~silicon~~ reaction-preventing nitride layer is formed by a plasma nitration process at [[a]] the first temperature [[of]] below about 600°C ~~or less~~.

18. (Currently amended) The method of Claim 16, wherein the ~~silicon~~ reaction-preventing nitride layer is formed by a chemical vapor deposition process at [[a]] the first temperature [[of]] below about 600°C ~~or less~~ or by an atomic layer deposition process at [[a]] the first temperature [[of]] below about 600°C ~~or less~~.

19. (Currently amended) The method of Claim 16, wherein the ~~silicon~~ reaction-preventing nitride layer is formed by a microwave-type deposition process at [[a]] the first temperature [[of]] below about 600°C ~~or less~~.

20. (Currently amended) The method of Claim 14, wherein the dielectric layer [[is]] comprises a metal oxide layer.

21. (Currently amended) The method of Claim 20, wherein the metal oxide layer [[is]] comprises at least one selected from the group consisting of a TiO_2 layer, an Al_2O_3 layer, an Y_2O_3 layer, a ZrO_2 layer, an HfO_2 layer, a $BaTiO_3$ layer, an $SrTiO_3$ layer and a composite layer thereof.

22. (Currently amended) The method of Claim 20, wherein the ~~metal oxide~~ dielectric layer is formed by a chemical vapor deposition ~~method~~ process at **[[**a**]]** the second temperature **[[**of**]]** below about 600°C ~~or less~~ or by an atomic layer deposition ~~method~~ process at **[[**a**]]** the second temperature **[[**of**]]** below about 600°C ~~or less~~.

23. (Currently amended) The method of Claim 14, wherein the second conductive layer **[[**is**]]** comprises an amorphous silicon layer, a polycrystalline silicon layer, a Ru layer, a Pt layer, an Ir layer, a TiN layer, a TaN layer, a WN layer and/or a composite layer thereof.

24. (Currently amended) A method of forming a capacitor comprising:

forming an insulation layer pattern having a contact hole on a substrate having a lower structure;

forming a first conductive layer continuously on a sidewall portion and a bottom portion of the contact hole and on **[[**the**]]** a surface portion of the insulation layer pattern;

removing the first conductive layer formed on the surface of the insulation layer pattern;

removing the insulation layer pattern to allow the first conductive layer to remain on the sidewall portion and the bottom portion of the contact hole to form a cylindrical lower electrode;

forming a reaction-preventing nitride layer on the cylindrical lower electrode at a first temperature ~~not generating~~ without a phase change of the cylindrical lower electrode and without an increase of a resistance of the cylindrical lower electrode ~~to prevent oxidation of the cylindrical lower electrode~~;

forming a dielectric layer on the reaction preventing nitride layer at **[[**the**]]** a second temperature ~~not generating the phase change of the first conductive layer~~ substantially the same as the first temperature, wherein the reaction-preventing nitride layer prevents an oxidation of the cylindrical lower electrode in a formation of the dielectric layer ~~and the first conductive layer are not exposed to a temperature generating the phase change of the first conductive layer before formation of the dielectric layer~~; and

forming a second conductive layer on the dielectric layer as an upper electrode.

25. (Currently amended) The method of Claim 24, wherein the first conductive layer [[is]] comprises an amorphous silicon layer, a polycrystalline silicon layer and/or a composite layer thereof.

26. (Currently amended) The method of Claim 24, wherein the ~~reaction preventing~~ reaction-preventing layer is formed by a plasma nitration process at [[a]] the first temperature [[of]] below about 600°C ~~or less~~, by a chemical vapor deposition process at [[a]] the first temperature [[of]] below about 600°C ~~or less~~ or by an atomic layer deposition process at [[a]] the first temperature [[of]] below about 600°C ~~or less~~.

27. (Currently amended) The method of Claim 24, wherein the dielectric layer [[is]] comprises at least one selected from the group consisting of a TiO_2 layer, an Al_2O_3 layer, an Y_2O_3 layer, a ZrO_2 layer, an HfO_2 layer, a $BaTiO_3$ layer, an $SrTiO_3$ layer and a composite layer thereof.

28. (Currently amended) The method of Claim 24, wherein the dielectric layer is formed by a chemical vapor deposition process at [[a]] the second temperature [[of]] below about 600°C ~~or less~~ or by an atomic layer deposition process at [[a]] the second temperature [[of]] below about 600°C ~~or less~~.

29. (Currently amended) The method of Claim 24, wherein the second conductive layer [[is]] comprises one of an amorphous silicon layer, a polycrystalline silicon layer, an Ru layer, a Pt layer, an Ir layer, a TiN layer, a TaN layer, a WN layer and/or a composite layer thereof.

30. (Currently amended) The method of Claim 24, wherein the lower structure ~~includes~~comprises a contact plug connected to the cylindrical lower electrode.

31. (Currently amended) The method of Claim 1, wherein the nitride protection layer comprises an electrically non-conductive layer.

32. (Currently amended) A method of forming a capacitor on an integrated circuit comprising:

forming a ~~cylindrical~~ lower electrode ~~of the capacitor~~ on an integrated circuit substrate;

forming an electrically non-conductive protection layer on the ~~cylindrical~~ lower electrode at a first temperature ~~below a minimum temperature associated with~~ without a phase change of the ~~cylindrical~~ lower electrode and without an increase of a resistance of the first lower electrode;

forming a dielectric layer on the electrically non-conductive protection layer at [[the]] a second temperature ~~below the minimum temperature associated with the phase change of the cylindrical lower electrode~~ substantially the same as the first temperature, wherein the electrically non-conductive protection layer is configured to ~~limit~~ prevent an oxidation of the ~~cylindrical~~ lower electrode ~~during forming~~ in a formation of the dielectric layer ~~and wherein the electrically non-conductive protection layer and the cylindrical lower electrode are not exposed to the temperature associated with the phase change of the cylindrical lower electrode before formation of the dielectric layer~~; and

forming an upper electrode ~~of the capacitor~~ on the dielectric layer.

33. (Currently amended) A method of forming a capacitor on an integrated circuit comprising:

forming a lower electrode ~~of the capacitor~~ on an integrated circuit substrate;

forming a nitride protection layer on the lower electrode at a first temperature ~~below a minimum temperature associated with~~ without a phase change of the lower electrode and without an increase of a resistance of the lower electrode;

forming a dielectric layer on the nitride protection layer at [[the]] a second

temperature ~~below the minimum temperature associated with the phase change of the lower electrode~~ substantially the same as the first temperature, wherein the nitride protection layer is configured to ~~limit~~ prevent an oxidation of the lower electrode ~~during forming~~ in a formation of the dielectric layer ~~and wherein the nitride protection layer and the lower electrode are not exposed to the temperature associated with the phase change of the lower electrode before formation of the dielectric layer~~; and

forming an upper electrode ~~of the capacitor~~ on the dielectric layer.